

FROM THE SEA: OPERATIONAL REACH AND SUSTAINMENT

**A MONOGRAPH
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Aviation**



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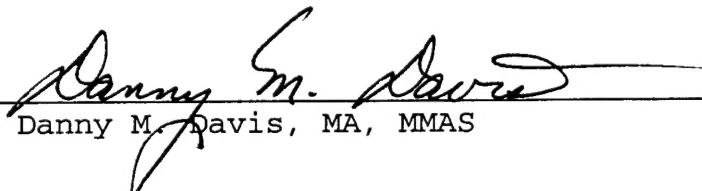
MONOGRAPH APPROVAL

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ABSTRACT

FROM THE SEA: OPERATIONAL REACH AND SUSTAINMENT by MAJ James M. Richardson, USA, 41 pages.

In an effort to rethink how the Army fights, the 1993 FM 100-5 Operations, recognizes the fact that the Cold War has ended and the strategy of the United States has changed. The Army's doctrine reflects a shift to stronger joint operations and incorporates a myriad of changes to include a new Army tenet - versatility. The versatility of an aviation task force is inherent in its ability to deploy from naval vessels, ingress landfall with the purpose of conducting major operations (asymmetrical and symmetrical). This monograph examines the desirability and feasibility of an aviation task force, using naval vessels as a force projection platform, to support operational objectives.

The analysis begins with a historical review of adapting aviation forces to different environments. Lessons learned from the past can provide valuable insights into the types of major operations that an aviation task force can conduct in the future. This monograph examines three separate but related areas necessary for an aviation task force to conduct operations from the sea. A discussion of the types of major operations will follow the historical survey of adaptive aviation forces. Employment of aviation task forces and sustainment issues follow.

The monograph concludes that an aviation task force can conduct successful major operations (asymmetrical and symmetrical) using naval vessels as launch and/or pickup platforms. Basing an aviation task force on the deck of naval vessels extends operational reach and gives the joint task force commander another "sword" to deliver a symmetrical or asymmetrical attack against the enemy. An aviation task force conducting operations from naval vessels is protected by the "shield" of the joint task force until it is ready to deliver its blows against the enemy. The concept of operating an aviation task force from amphibious assault ships is a force multiplier with great potential for future contingency applications.

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INTRODUCTION

On 1 September 1939, Adolph Hitler's juggernaut rolled over Polish forces and engulfed Europe in a firestorm. News of war arrived in the United States just as General George C. Marshall was assuming his duties as Chief of Staff of the Army.¹ He confronted daunting tasks. A lesser man probably would have thrown up his arms in frustration and given up. Marshall, however, was extraordinary. He drew upon nearly four decades of military experience to rebuild the Army. He placed the most talented officers in key positions; fired the unfit; implemented rigorous individual and small unit training programs; directed the execution of large-unit maneuvers; reorganized the Army staff; directed the restructuring of divisions and corps; revamped mobilization and war plans; and established effective relations with the president, Congress and the other services. In short, Marshall was the architect of the modern Army, the author of the Army's successes during World War II and one of the founding fathers of the Army that won the Cold War.²

Like our military leaders before us, we are facing a period of constrained resources and shrinking defense budgets. As the Congress continues to debate the issue of redundancy in capabilities; the Army, Navy, Marines, and Air Force will have to become more innovative and effective in the employment of the forces currently on hand. To ensure the continued security of the United States, the individual Services must take every opportunity to work together to enhance our overall defensive posture. Joint doctrine

must continue to build on the collective knowledge and wisdom gained through recent operations, numerous exercises, and the deliberate process of informed reasoning.

Joint Vision 2010 provides a coherent view for the future of joint operations with four emerging operational concepts: Dominant Maneuver, Precision Engagement, Focused Logistics and Full Dimensional Protection. Army Vision 2010 is the blueprint for the Army's contribution to Joint Vision 2010. It calls upon the Army to conduct prompt and sustained operations across the spectrum of conflict.

With the fall of the Berlin Wall, the Army's strategy has changed from a forward deployed Army to a force projection Army. Force projection is the demonstrated ability to rapidly alert, mobilize, deploy, and conduct operations anywhere in the world.³ Force projection is inherently joint in nature.⁴ It provides combatant commanders with a wide range of operational and tactical options. This new focus on force protection means adapting current force structure, equipment, and doctrine to augment the capabilities and roles of the other Services.

The fall of the Berlin Wall forced the Army to rethink how it would fight in the future. Army Field Manual 100-5 *Operations*, "recognizes the fact that the Cold War has ended and the strategy of the United States has changed."⁵ The Army's doctrine reflects a shift to more joint operations and incorporates a myriad of changes to include a new Army tenet - Versatility. Versatility requires commanders to be able "to shift focus, tailor forces, and move from one role to another."⁶ Army aviation demonstrates its versatility when it operates as a joint maneuver force. The ability of Army aviation to operate from a variety of platforms (to include ships) and the ease which an aviation task force can be

packaged for each mission give commanders the versatility they need on future battlefields.

The concept of Army aircraft operating from naval vessels was successful during recent combat operations. Operation Earnest Will and Operation Uphold Democracy demonstrated that the concept of employing an aviation task force as an operational maneuver force from the deck of a carrier or amphibious assault ship gives a combatant commander fires with operational reach and sustainment.

The monograph will examine the desirability and feasibility of an aviation task force, using naval vessels as a force projection platform, to support operational objectives. The analysis begins with a historical review of adapting aviation forces to different environments. Lessons learned from the past can provide valuable insights into the types of major operations that an aviation task force can conduct in the future.

The issue of strategically deploying an aviation task force to a contingency area is a concern, but it is beyond the scope of this monograph. As former President George Bush stated in his remarks at the Aspen Institute Symposium in 1990: "...no amount of political change will alter the fact that we are separated from many of our most important allies and interests by thousands of miles of water."⁷ For the purpose of our discussion, the aviation task force is in theater or in a position to conduct its operational mission. A discussion of the types of major operations will follow the historical survey of adaptive aviation forces. Employment of aviation task forces and sustainment issues follows the survey.

The assessment section of the monograph uses the combat functions as a framework to answer three subordinate research questions in order to determine how a JTF

Commander or CINC can best adapt an aviation task force to support operational objectives. The conclusions and recommendations section will discuss outstanding issues and will include recommendations that can be used to steer the aviation community back on course. It will also provide future JTF commanders insight into existing capabilities that can extend operational reach from a location that can significantly increase the ability to inflict damage on our adversaries.

HISTORICAL BACKDROP

At 0820 hours, the pilot pressed the power levers forward. The engines delayed for an instant-- then rumbled to life with an exhilarating roar. A roar that announced the radial engine's readiness to press the aircraft forward. Then the Landing Signal Officer dropped his flags--signaling the aircraft to go. With a deck run of less than 150 feet, the aircraft was airborne in a healthy ascent. And thus LTC Jimmy Doolittle's B-25 Mitchell Bomber, weighing in excess of 15 tons was enroute to its objective--military facilities in Tokyo, Japan. The bombing of the island of Japan was of little tactical significance. But strategically, it was a major psychological blow against the Empire of Japan and a psychological uplift for the United States.⁸

The only other options for such a strike on mainland Japan in 1942 involved the use of long range medium bombers. Naval strike aircraft did not have the range nor requisite ordnance payload. The only available means at their disposal for such a mission was the B-25 Mitchell Bomber. The concept was envisioned shortly after the attack on Pearl

Harbor. During the ensuing three month period, Army Air Corps Pilots were trained in excruciating detail for the mission.⁹

And thus, the concept of adapting forces based on mission requirements and resources, better known today as Joint Interoperability or Full Spectrum Dominance, was born. Certainly, given time, Naval Aviators could have been trained for the mission. But, the question was--which was easier, 1) more efficient aircraft to conduct the mission with a higher probability of success?...2) training pilots or adapting trained pilots for the mission? History is replete with examples of forces, not normally trained for specific missions, adapting to new environments, and successfully executing missions with salutary results.

FM 100-7 *Decisive Force: The Army in Theater Operations* acknowledges the fact that world political changes and affordability have reduced US access to land bases in forward areas near the most likely crisis regions. This has increased the importance of military operations that can capitalize on sea bases and land lodgements that, once synchronized, project land and air combat power deep into the littoral region.¹⁰

The concept of an aviation task force using naval vessels as a force projection platform was most recently underwritten in 1994 during Operation Uphold Democracy. The aviation brigade from the 10th Mountain Division stood ready to launch air assault forces from the USS EISENHOWER to resolve the conflict in Haiti. During the five day voyage from Norfolk, Virginia to Haiti, troops from the 10th Mountain Division and sailors aboard the carrier worked and ate together as they prepared for a history-making mission. Operation Uphold Democracy would mark the first time conventional Army

helicopters launched air assault forces from a Navy aircraft carrier. The commander of 10th Mountain Division considered using other rotary wing lift and attack assets, but was faced with the same challenges that planners faced prior to the Doolittle Raid. Which course of action was easier, more efficient, and had a higher probability of success?

In 1981, a hostage rescue attempt in Tehran was planned and executed disastrously by the Armed Forces of the United States. A select group of pilots were originally picked for the mission. They were highly trained and capable of operating their aircraft under all environmental conditions. Subsequently, a decision was made to use pilots based solely on the fact that they knew how to fly from naval vessels. The pilots had minimal training in the aircraft type (CH-53) and had virtually no experience conducting long range penetration missions in arid desert environments.¹¹ Yet, the original group of pilots were relieved of supporting the mission for questionable reasons and replaced by pilots with no experience in the aircraft and environment in which they were expected to operate.¹² Again the results are of historical significance and had devastating results on the morale of the U.S. Military, not to mention National Will and prestige.

Consider the largest amphibious operation in history--Operation Overlord. Perhaps the greatest shortcoming during the planning phase was the lack of Landing Craft. The allied forces had only a few Landing Craft at their disposal--not enough nor the right type. This issue was to stymie the planning for this mission for nearly two years. It was not until three shallow-draft oilers were procured from Lake Maracaibo in Venezuela and converted into prototypes of the Landing Ship Tank (LST) that a valid concept for a

landing craft designed was discovered.¹³ In this case, naval vessels had to be adapted to the assault force.

As we look to the future, a future of constrained resources, the mandate for interoperability and jointness is clear. "Forward From the Sea," the Navy's Joint Vision for the future, advocates that "the changing strategic landscape--away from having to deal with a global maritime threat and toward projecting power and influences across the sea in response to regional challenges--are ready and positioned to respond to the wide range of contingencies."¹⁴ Joint Vision 2010 underwrites Flexible Force Packaging, a concept that would seem to support the idea of an aviation task force using naval vessels as a force projection platform.

As we look to the future, lessons from the past provide valuable insight into the type of operations an aviation task force can conduct from the deck of a ship. The following section will discuss the types of major operations a skillfully handled aviation task force could conduct to enable a JTF Commander or CINC to exert its influence and extend his operational reach in the littoral regions of the world.

MAJOR OPERATIONS

At the operational level of war, joint and combined forces within a theater of operations perform subordinate campaigns and major operations.¹⁵ FM 100-5 *Operations* defines major operations as "coordinated actions in a single phase of a campaign and usually decides the course of a campaign."¹⁶ To achieve these coordinated actions the

commander must arrange forces, equipment and missions for each phase of the operation. This arrangement will often be a combination of smaller simultaneous and sequential operations designed to quickly achieve the desired end-state conditions at the least cost in personnel and resources.¹⁷ Thus, operational reach in the broadest sense is an indispensable foundation “over which military power can be concentrated and employed decisively”- quickly achieving a commander’s desired end-state.¹⁸ Our approach to major operations must therefore change in the future in order to reduce the cost of personnel and equipment. This approach places unprecedented emphasis on the littoral areas as a means of gaining advantage while providing full dimensional protection.

The littorals provide homes to over three-quarters of the world’s population, locations for over 80 percent of the world’s capital cities, and nearly all of the marketplaces for international trade.¹⁹ To influence events overseas, advancing our interest through Engagement and Enlargement requires a credible power projection capability. In the absence of an adjacent land base, sustainable forcible entry capability that is dependent on forward staging bases, friendly borders, overflight rights, and other politically dependent support must now come from the sea.²⁰

Because of the importance of littoral regions, an aviation task force operating from the deck of a ship becomes a viable warfighting concept for future conflicts. An aviation task force can arguably help decide the course of a campaign by extending operational reach over which military power can be concentrated and employed decisively. By using ships as a force projection platform, an aviation task force allows a commander to take full advantage of asymmetrical and symmetrical actions.

Asymmetrical operations pit joint force strengths against enemy weaknesses to provide a commander with a decisive advantage.²¹ It also provides a commander full dimensional protection in order to maintain freedom of maneuver and control the battle space. An aviation task force can conduct a number of asymmetrical operations in support of a campaign. They can assist the Marine Corps in amphibious operations and provide early warning to the Carrier Battle Group by conducting screens or conduct raids to protect a Battle Group from brown-water threats. The focus of these major operations is on protecting the Battle Group, freeing other assets to concentrate on the Navy's sea control mission. Symmetrical operations on the other hand, involve opposing forces of similar size and organizational structure. An aviation task force conducting symmetrical operations can use ships as a launch or pick/up platform for an early entry assault force or conduct deep operations "to set the conditions for decisive future operations."²² In light of the growing interdependence of forces, the concept of operating an aviation task force from naval vessels has great potential for future contingency applications.

The international strategic environment has changed and, correspondingly, so must the logic linking joint interoperability and operational mission requirements. What military planners should distill from the past decade is that paradox asymmetry and uncertainty characterize the international environment now and into the foreseeable future. When military planners view contingencies around the world, the focus is usually on symmetrical threats. Such a view is necessary because these threats do exist and must be considered as the most dangerous threats to US interests. Military planners must divorce themselves from the threat-based logic of the Cold War and ask a more precise question: How do we

as planners organize existing capabilities to counter asymmetrical threats? Thomas Kuhn reminds us in *The Structure of Scientific Revolutions*, “that the tendency is to devise numerous articulations and ad hoc modifications to the present theory in order to eliminate any apparent conflict.”²³

Asymmetrical Operations:

Full dimensional protection [during operational missions such as amphibious operations] requires control of the battlespace to ensure forces can maintain freedom of maneuver throughout the operation.²⁴ This is accomplished using multi-layered defenses. The aviation task force has the capability to assist the Marine Corps with this critical mission. During amphibious operations, an aviation task force can support the Marine Corps by conducting feints and demonstrations, isolating objective areas and gathering intelligence in support of the overall operation.

Brown water forces may be the biggest threat to the security of a naval or amphibious task force operating in the littoral regions of the world. Naval and marine forces are designed for sea control and amphibious operations. These forces are not designed or equipped to deal with this threat. Naval and amphibious task forces are particularly vulnerable to brown water threats in the littorals.

To overcome specific US Navy weaknesses in full dimensional protection, an aviation task force can screen or conduct raids to protect the Carrier Battle Group from brown-water threats. An aviation task force can perform low level reconnaissance operations to locate and interdict mine laying boats and ships, freeing other naval assets to focus on the Navy’s sea control mission. It can also conduct special purpose operations such as raids

against brown-water threats to secure information about the threat; mask the location of the Battle Group or destroy small boats or platforms that are out of range of Marine Corps assets. Because of the unique capabilities, the aviation task force, can adapt to meet the challenges of full dimension protection.

Symmetrical Operations:

The United States will not have the benefit of secure ports and airfields to conduct extended deployment operations during future conflicts. Ground forces will have to rapidly deploy from the United States and conduct forced entry operations against hostile forces. Commanders must incorporate a force into their plan that can breach enemy defenses during initial entry operations. An aviation task force's ability to deploy and operate from ships at sea gives the Army a strategic early entry force in a forced entry scenario.

Three traditional options are available to commanders for forced entry operations. Each has advantages and disadvantages that must be considered by commanders and their planning staffs. All three of the traditional options have been used successfully during past campaigns. However, each of the traditional methods has also failed to defeat defending enemy forces during past forced entry operations.

Amphibious assaults are a naval service core competency mission. The Marine Corps, supported by naval or amphibious task forces, has successfully used amphibious assaults for forced entry operations in the past. In a future amphibious operation, aviation task forces can support the landing force by performing air assault and security missions as part of the task force commander's overall full dimensional protection mission.

Airlanding is a second form of forced entry operation. Aircraft laden with troops and equipment land on airfields, offload and depart as quickly as possible. This is a riskier course of action because inter-theater aircraft are vulnerable to ground and air based defenses during airlanding operations. An aviation task force can help facilitate this type of operation by augmenting the airlanding team with overwhelming firepower at the point of entry. The task force can provide security for the landing force from both air and grounds threats, expand the airhead and give the ground commander additional firepower to successfully execute a forced entry operation. The aviation commander can provide the multi-layered defense necessary to ensure the overall success of the airlanding operation.

Parachute assault is the third form of forced entry operations. An aviation task force, launching from a secure base of operations, is capable of providing full spectrum dominance for a forced entry operation. Parachute assault operations are the fastest way to project combat forces into a theater of operations. Parachute entry, just like other forms of forced entry operations has drawbacks. Like airlanding forces, paratroopers will face anti-aircraft defenses in flight and stubborn defenses on the ground. An aviation task force can facilitate parachute assaults by providing area security from anti-aircraft guns or missiles or by defeating follow-on forces sent to disrupt the parachute assault.

The fourth form of forced entry is an air assault. An aviation task force operating from a naval vessel can extend a commander's operational reach by conducting air assault operations from naval vessels. This option offers a JTF commander or CINC the agility and versatility to conduct several different operations: forced entry operations, evacuation of noncombatants (NEO) or shift focus to attack follow-on forces. The use of naval

vessels as an air assault platform is an innovative concept that provides the joint force commander tremendous flexibility in the execution of an operation.

To take advantage of the opportunities offered by an aviation task force acting as an air assault force, commanders must develop an insight into the principles governing their employment. An aviation task force can be fully integrated into the Navy team to form a powerful and flexible air assault task force that can project combat power throughout the entire area of operation, unencumbered by terrain barriers. What distinguishes an air assault task force “maneuvering from the Sea from all other species of operational maneuver is the extensive use of the sea as a means of gaining advantage, an avenue for friendly movement that is simultaneously a barrier to the enemy and a means of avoiding disadvantageous engagements.”²⁵ An aviation task force tailored specifically for air assault operations is designed to hit hard and fast. It is a bold bid for victory that aims at exploiting significant enemy weakness in order to deal him a decisive blow before he can recover.²⁶

Extending operational reach over which military power can be concentrated and employed leads to a discussion about deep operations, the second type of symmetrical operation that an aviation task force can execute from the platform of a ship. In pursuit of operational objectives, fighting in depth is a key aspect of operational force protection and precision strike actions that can be launched from the deck of a ship. Successful deep operations take away the enemy’s ability to hold our centers of gravity and critical functions at risk by disrupting and destroying his attack capabilities, reconnaissance, and command and control.²⁷ For operational purposes, force protection involves defeating the

enemy's short, medium, and long range rockets and ballistic missiles, unmanned aerial vehicles, and attack/armed reconnaissance aircraft.²⁸ Examples of operational precision strike objectives include destroying an enemy's integrated air defenses or negating his ability to attack deep by denying him the use of his reserves.²⁹ Such an intricate effort involving an aviation task force using naval vessels as launch platforms has not been planned or conducted on a large scale since the Doolittle Raid on Tokyo in 1942. However, unlike the Doolittle Raid, the challenge is to takeoff from the ship and return to the ship after completing the mission. An aviation task force extends operational reach by striking in depth while providing operational force protection and precision strike.

Sun Tzu said in his book, *The Art of War* that "rapidity is the essence of war. Take advantage of the enemy's unreadiness, make your way by unexpected routes and attack unguarded spots."³⁰ The ability to deploy from naval vessels, ingress landfall with the purpose of destroying an operational target or group of targets and return to that vessel, is a fresh example of joint interoperability.

The ability of the Navy to maneuver ships into position to strike vulnerable targets, or threaten amphibious assault at multiple locations along an extended coastline, is a significant operational advantage. Indirectness by an aviation task force using amphibious ships as a launch/pickup platform allows movement along either the line of resistance and/or the line of least expectation to avoid the enemy's strength. The concept presented in this monograph challenges the conventional mind set of always using the direct approach.

An aviation task force, using naval vessels as a force projection platform, can use the indirect approach in support of a particular operational mission. Employing an aviation task force in response to a crisis in a contingency area requires careful planning. The following section will discuss the type of platforms, planning considerations and how to employ the task force to a contingency area.

EMPLOYMENT

The previous section concentrated on the types of major operations an aviation task force can conduct in support of operational objectives. This section focuses on how to employ the task force; specifically the types of platforms available for employment. The issue of how to employ an aviation task force in support of operational objectives is critical.

The operational environment of the littoral battlespace dictates a dramatic change in the way the Army conducts business today. The ability to strike against a hostile shore from an unexpected or advantageous direction provides a CINC with the flexibility, mobility, and balance necessary to create opportunities to exploit the tremendous potential combat power of an aviation task force. War from the sea provides a commander with an operational maneuver force that can take the battle to the enemy. The aviation task force provides a means for applying high-intensity, precision strike offensive power at the time and place of his choosing.³¹

The centerpiece of the Navy's offensive and defensive strategy is the aircraft carrier.

Carriers support and operate aircraft that attack airborne, afloat, and targets on shore which threaten our use of the sea.³² The carrier's most important function is the establishment of local air superiority so that a naval expeditionary force can effectively transition from open ocean to littoral areas.³³ They prevent the enemy from massing forces or maneuvering his forces effectively, allowing US forces the ability to exploit windows of opportunity created during the initial phase of the forced entry operation.³⁴ The Doolittle raid (1942) and Operation Uphold Democracy (1993) demonstrated that carriers are an ideal platform to support an aviation task force. However, a CINC would more than likely use his carriers for their primary mission of air superiority and protection of the battle group as opposed to designating them for use by an aviation task force. Although, this option should never be ruled out, another platform must be found. Amphibious assault ships may be the preferred launch platform for an aviation task force.

The United States Navy's twelve Amphibious Ready Groups are structured to project power around the world. They are currently forward deployed in the Mediterranean and the western Pacific ocean.³⁵ These ships are evenly split between the Pacific and Atlantic Fleets. The projection of intense, precision offensive power is possible because both fleets have the right ships in the right place for the job and are positioned to react to any scenario.³⁶

Amphibious ships are designed to meet warfighting requirements and provide forces capable of operating in the three-dimensional maritime environment. These ships provide landing zones, maintenance and work areas, fuel farms, air operations planning facilities, and command and control facilities to support aviation support.³⁷ Amphibious ships carry

assault troops and equipment to enemy beaches and serve as combat support platforms for these forces. They transport and land assault forces ashore using of Landing Craft Air Cushion (LCAC) vehicles, conventional landing craft, and helicopters.³⁸ These ships are supported by Amphibious Command Ships that provide command and control for major amphibious operations and could be used to support planning for a joint major operation.

The Navy currently has in its inventory, three classes of the big-deck amphibious ships and two amphibious command ships. The three classes of amphibious assault ships are the Iwo Jima Landing Platform Helicopter (LPH) class ships, of which the Navy has three; the Tarawa Landing Helicopter Assault (LHA) class ships, of which the Navy has five; and finally the Wasp Landing Helicopter Deck (LHD) class ships, of which the Navy has six.³⁹ Each of the fourteen ships are capable of supporting an aviation task force. Only nine of the big-deck amphibious ships are currently allocated for planning against a major regional contingency.⁴⁰

The capabilities of the three Iwo Jima LPH class ships are diverse. The ships are powered by a modern, clean burning 600 psi steam system that develops 23,000 shaft horse power and can propel the ship at speeds up to 22 knots. The ships can accommodate up to twenty AH-64D (Longbow) attack helicopters. For planning purposes the AH-64D Longbow is used because it is the larger than a UH-60 Blackhawk helicopter. The flight decks provide for simultaneous takeoff or landing of seven helicopters during normal operations with the ability to accommodate an additional five helicopters parked on the flight deck. The lower deck can accommodate space for eight AH-64Ds and provide space for 37,400 cubic feet to palletize stores and workshops for

intermediate level maintenance. The ships have the capacity to house 1562 troops and store up to 1500 tons of aviation fuel.⁴¹

The five TARAWA class LHA ships are the workhorse amphibious assault ships of the Navy. The Tarawa class is powered by the same engines as the Iwo Jima class ships and have a range of 10,000 miles at 20 knots. The ship is equipped with a combined radar warning, jammer and deception system. The TARAWA class ship has the Tactical Amphibious Warfare Data System (TAWDS) to provide computerized support in control of helicopters, shipboard weapons and sensors, navigation, and electronic warfare systems. The ship has the capacity to accommodate twenty two AH-64Ds, 1200 tons of aviation fuel and 1703 troops. The ship's flight deck provides for simultaneous takeoff or landing of nine AH-64D helicopters during normal operations with the ability to accommodate an additional nine helicopters parked on the flight deck. Beneath the full-length flight deck are two half-length hanger decks connected by two elevators. The two half-length hanger decks can accommodate up to four AH-64Ds each and have 33,730 square feet available for vehicles and 116,900 cubic feet for palletized stores. Like the LPH and LHD, the LHA has workshops areas and equipment for intermediate level maintenance support.⁴²

The six WASP class LHD ships are the largest amphibious assault ships in the Navy's inventory. Its design is based on the Tarawa class LHAs. The WASP class ships have more cargo capacity, better communications, and an improved air defense weapon systems. The WASP class is powered by two 600psi engines which develop 70,000 shaft horse power and has a range of 9500 miles at 18 knots. The ship is equipped with a combined radar warning, jammer and deception system. Included on the LHDs is a

Collective Protection System designed to provide a sealed environment against an NBC attack. The ship is integrated with a communications system that can talk to the world. It has UHF/VHF/HF radios, UHF/VHF/EHF satellite systems and video teleconferencing capability. Its command and control package includes the Tactical Amphibious Warfare Data System (TAWDS) and the Marine Tactical Amphibious C2 system which can process information in support of an aviation task force. The ship has the capacity to accommodate thirty AH-64Ds, 1232 tons of aviation fuel and 1870 troops. The ship's flight deck provides for simultaneous takeoff or landing of nine helicopters during normal operations, with the ability to accommodate an additional eleven helicopters parked on the flight deck. The ship also has a lower deck (267 x 50 ft) that can accommodate up to ten parked AH-64Ds. Like the LPH, the LHD has workshops areas and equipment to provide intermediate level maintenance. Unlike the LPH, the LHD is fitted with a 600-bed capacity hospital and six operating rooms.⁴³ In fact, when a WASP class ship is at home in Norfolk, Virginia, she is listed in the Virginia State disaster plan as the fourth-largest hospital in the state.

The Navy's amphibious assault ships provide the ideal platform for an aviation task force. Flight decks, parking ramps, storage, maintenance shops, command and control facilities and defensive systems combine to give the aviation task force the operational reach it needs to support major operations.

Strategic employment is just one aspect of operational reach and sustainment. Employing an aviation task force from naval vessels is inherently a joint undertaking. As

such, force projection logistics requires a commensurate degree of jointness. Sustaining the force is the “long pole in the tent” and will be discussed in the next section.

SUSTAINMENT

The littorals often offer the best position from which to begin, sustain, and support joint operations--especially in operational areas with poor infrastructure for supporting operations ashore.⁴⁴ Sustainability is a measure of the ability to maintain logistic support to all forces throughout the theater for the duration of the operation.⁴⁵ Today's concept of operational logistics is in line with the Clausewitzian theoretical framework. Although Clausewitz attempted to “...separate supply from the business of war...” he displayed an understanding for the necessity of effective logistical support.⁴⁶ He addressed logistics in terms of *bases of operations and billets, maintenance and supply, and lines of supply*. These same logistical constructs affect operations conducted by an aviation task force from the deck of a ship at sea.

Operational logistics is not merely the ordering, transshipment, and receipt processing of large quantities of “stuff” to complete the Army, Air Force and Navy “kit bag” in support of land, air and sea combat. Operational logistics focuses on deployment and integration of forces and logistics in the theater based on the combatant commander's theater-strategic design.⁴⁷ It encompasses all logistics and related support activities which form a part of any logistical consideration evaluated during the planning and execution of major operations and campaigns. At the operational level, logistics is the bridge

connecting the nation's economy and physical resources to the warfighting forces in combat. It has a significant application to the joint maritime theater and in particular to the exploitation of an aviation task force in the littoral. Operational logistics in a maritime theater extends the forces operational reach from a ship afloat forward to a "distance over which military power can be concentrated and employed decisively."⁴⁸

In line with Clausewitz's theoretical framework of logistical support, today's modern amphibious fleet provides an aviation task force an excellent platform *to base operations and billet personnel*. The amphibious group is a moving base of operations capable of keeping a sizable force of helicopters or landing troops at sea for extended periods. These ships provide a landing zone, maintenance and work areas, fuel farm, air operations planning facilities, and command and control for aviation support. The amphibious group requires little external logistical support and is able to function as a self-contained attack unit. The modernized amphibious fleet has improved vehicle facilities, medical facilities, storage facilities and larger, more comfortable crew spaces.

Operational logistics has a significant application to the joint maritime theater and in particular to *maintaining and supplying* an aviation task force in the littoral. The concept of sustaining an aviation task force from the sea must consider the operational sustainment concepts found in Navy Doctrinal Publication 4, *Logistics*. Planners must consider the following when planning sustainment for an aviation task force:

- Short Duration Missions
 - Drawing the bulk of supplies from internal pickup kits
 - Resupply of materials from naval stores on as-needed basis

- Fuel and petroleum lubricant products
- Long Duration Missions
 - Establish an account with the Navy for collective logistics
 - Logistics resupply from U.S. infrastructure or intermediate staging bases
 - Workshops with proper tools for intermediate level maintenance
 - Transportation of supplies not available in ship stores
 - Billeting and messing for additional personnel required for an extended deployment

Much of the Navy's operational and logistics planning involves full integration and participation in joint operations. When a CINC calls upon naval forces to support an aviation task force, he looks for both responsiveness and staying power. Forward deployed naval forces carry with them initial sustainment stocks to support operations. The forces are supported by an in-place, efficient, functioning logistic system constantly flowing material and logistic support to the task force. The supply system needs only to expand its flow to accommodate an aviation task force.⁴⁹ Collectively, sources of logistic support are capable of providing all the supplies and services an aviation task force needs in order to accomplish its mission. Collective logistics also requires the Navy to ensure that a logistics pipeline remains open from the U.S. infrastructure or intermediate staging bases to the end user, the aviation task force.

The task of supporting an aviation task force afloat and maintaining *lines of supply*, requires a careful balance of time, sources of support, priorities, and receiving capabilities in order to maintain a flexible and responsive support system. The fusion of information, logistics, and transportation technologies in an Amphibious Ready Group allows it to be

responsiveness because of its ability to track and shift assets while enroute, and deliver tailored logistics packages and sustainment to a customer aboard ship.⁵⁰

The only drawback to sustainment aboard ship is an aviation task force's limited access to additional parts for unscheduled maintenance. Although access to additional helicopter parts (parts not contained in the prescribed load list) may be considered a limitation, it is not a show stopper. The naval supply system has the capability to requisition necessary parts from the appropriate agencies on shore. Using both connected and vertical replenishment operations, the Navy routinely resupplies ships underway.⁵¹ This fast and efficient means of replenishment is a matter of routine for the Navy in peacetime as in wartime.⁵² Readiness, flexibility, self-sustainability, and mobility are the qualities that permit naval forces to be expeditionary--able to move and sustain an aviation task force while at sea.

Focused logistics in the littoral battlespace dictates adherence to joint logistical precepts. Day-to-day operations require that joint forces operate on both land and along the world's littorals--and to be capable of remaining in these areas indefinitely. Naval logistics allows joint forces to be expeditionary, facilitating complex operations for extended periods anywhere in the world.

The success of future littoral operations will depend on the preparation of sustainment packages to support the operation from ships at sea. Focused logistics provides the aviation task force with sustainment necessary to conduct operations in a littoral theater. Using naval vessels to extend operational reach by an aviation task force may or may not

decide the outcome of a major operation, but it does give the joint force commander another capability that can deliver a decisive blow to a real world threat.

ANALYSIS

The seven combat functions offer a framework for using theory to analyze how a JTF commander or CINC can best adapt an aviation task force to theater requirements in support of operational objectives. For the purpose of this monograph, force protection is substituted for air defense because the threat to friendly forces comes from air, surface and ground forces. For this reason mobility and survivability is incorporated with maneuver to analyze whether or not using the direct approach (overland) versus the indirect approach (over water) increases survivability. The combat functions are: intelligence, maneuver, fire support, force protection, logistics, and battle command. The goal is to determine if an aviation task force using naval vessels as a force projection platform is a feasible and desirable method of employment. This analysis will provide a basis for specific recommendations in the conclusion section of the monograph to show how best to adapt an aviation task force to support operational objectives.

Intelligence:

The success or failure of the intelligence mission is directly attributed to the ability of the intelligence architecture to support the mission. With an operational focus, it is critical that the intelligence architecture aboard amphibious ships possess redundant connectivity

from the maneuver commander to national level intelligence organizations. Naval intelligence centers aboard ships are designed to support operations at sea, from the sea, and shore through an organization closely linked with joint and national intelligence centers.⁵³ The Navy employs a highly capable organization of intelligence and cryptologic personnel afloat--closely linked to and integrated with other services, joint and national intelligence operations.⁵⁴

Clausewitz said that maneuver creates an effect out of nothing "by using the mistakes into which the enemy can be lured... It is in fact a play of balanced forces whose aim is to bring about favorable conditions for success and then to use them to gain an advantage over the enemy."⁵⁵ To gain an advantage over the enemy, current systems aboard a ship, have access to information that provides a clearer picture of enemy locations than can be found in a battalion, brigade or even a corps fire support command post.

Joint naval intelligence centers aboard ship serve as fusion centers where information from various sources (cryptologic sensors, satellite photography, tactical airborne reconnaissance, units in contact with the enemy, etc.) is validated, correlated, analyzed, and disseminated to support operations. These centers also use links to theater and component sensors to complement organic capabilities and to facilitate national, theater, and tactical intelligence support to a wide range of operations.⁵⁶ Once the information is collected, it is briefed to pilots and other critical personnel using near-real-time satellite photographs and fused all-source intelligence by the analysts themselves.

The joint intelligence center can access the vast data bases of the Defense Mapping Agency to provide mission personnel with up-to-date maps and anything else the

intelligence community provides. A ship can also exploit enemy signals and electronic emissions. Equipped with data links to national and theater-level intelligence systems, the Ships Signals Exploitation Space can provide decision makers and mission personnel with up-to-date information on enemy intentions and activities.

Combining intelligence information with the known doctrinal tendencies of threat ADA systems allows an aviation task force to maneuver indirectly (where the enemy is not) to the objective area, thus avoiding the enemy's defenses along likely ingress routes. The naval intelligence centers aboard ships are well suited to support an aviation task force conducting missions in support of the joint force commander.

Maneuver:

Army Field Manual 100-5, *Operations*, defines maneuver as "movement relative to the enemy to put him at a disadvantage."⁵⁷ Simply stated it means putting friendly forces into advantageous positions to fight. Mobile units win by moving; they fight only to maintain movement or to exploit the advantages gained by their maneuver. General Bruce Clarke said it best when he said, "Tracks are weapons." Today we would add, wings and rotors as well.

An aviation task force maneuvering from the littorals allows a commander to use the indirect approach. He chooses where and when he will accept combat, not allowing well prepared forces to dictate the fight. Maneuvering indirectly gives a commander the means to avoid the enemy's fires and creates an opportunity to exploit enemy vulnerabilities with his own concentrated combat power. The indirect approach allows the commander to

retain the initiative and to concentrate combat power against isolated and vulnerable enemy forces.

Operating from the littorals gives the aviation task force two other advantages-- surprise and force protection. Effective maneuver allows the aviation task force to surprise the enemy and destroy valuable assets before they can react. An aviation task force maneuvering from the sea increases the chance for success.

Maneuvering from the littorals provides force protection for the aviation task force. In order to protect the force, "the relationship between maneuver and terrain is a permanent factor so much so that one cannot conceive of a threat operating except in a definite space."⁵⁸ This definite space is where threat ADA units would emplace their systems to protect their forces, and it is also where aviation planners would attempt to plan air routes in order to facilitate their maneuver. Clausewitz stated in the book *On War* that "terrain is decisive in the highest degree, for it affects the operations of all forces, and at times entirely alters them."⁵⁹ This statement holds true in using the direct approach. Using the direct approach implies some preponderant level of combat power that the attacking force must have in order to shatter the defending enemy.⁶⁰ However, the terrain can entirely alter the use of the direct approach at the point of penetration in two ways: it provides outstanding cover to protect enemy ADA units from suppression by artillery units supporting the operation, and concealment from an aviation task force along approach routes. To attack using the direct approach concedes the advantage of terrain to the enemy.

Although an argument can be made that the indirect approach (over water) is more survivable than the direct approach (over land), the fact remains that there are a number of inherent risks associated with this type of maneuver. Although the number of enemy ADA systems is significantly reduced by using the indirect approach to the target, the fact remains that this approach is a more complex operation. Flying over water is more complex than flying over land and requires a significant amount of training. Secondly, there is a greater reliance on surprise and deception. There is also more friction associated with the indirect approach since friction generally varies directly as the maneuver distance increases.⁶¹ For Jomini, “maneuver in the art of war consisted of bringing into action upon the decisive point of the theater of operations the greatest possible force.”⁶² Therefore, the first creative act of a commander planning an operation is to assess whether or not using the indirect approach aids in bringing the greatest possible force upon the decisive point.

Fire Support:

The modern force projection environment is complex. The term operational fires refers to a commander’s application of nonlethal and lethal firepower to achieve a decisive impact on the conduct of a campaign or major operation.⁶³ With the increased emphasis on integrated operations of joint forces and fires, an aviation task force is the focal point for translating joint capabilities into the defeat of enemy forces to support the joint force commander’s intent and concept of the operation. Fire support is a combat function that helps commanders integrate and synchronize battle effects in time, space and purpose. It is the collective and coordinated employment of the fires of armed aircraft, land and sea-

based fire systems, and electronic warfare systems against ground targets to support land combat operations at both the operational and tactical levels.⁶⁴ An aviation task force's aerial firepower packaged with joint attack and electronic warfare systems provide the commander with a fire support system that generates firepower and supporting fires which facilitate the accomplishment of operational objectives.

Operational fires include the allocation of joint air, land and sea means.⁶⁵ The ability of each service to engage targets at operational depths demonstrates the inherent joint nature of operational fires.⁶⁶ Packaging an integrated strike force by the Navy can provide mutual support to an aviation task force. It can facilitate maneuver in depth by suppressing the enemy's offensive air systems. Counter-air aircraft such as the F-18 would be used to fend off enemy air. The Navy's EA-6B could provide jamming to degrade enemy radars and command and control centers. It can also be used to attack radars and surface-to-air missile sites along the route of flight and in the target area. Isolating the battlefield is another major task for the Navy. Isolating the battlefield requires effective interdiction, complementary to maneuver to achieve the joint force commanders operational objectives.⁶⁷ Navy F-14 strike aircraft could support the operation with their ground attack capability while E-2C aircraft provided command and control for the operation. Combining these operations with the simultaneous attack of an aviation task force achieves quick and decisive outcomes.

Naval expeditionary forces are task-organized, forward-deployed teams prepared to execute a broad range of fire support options initiated from the sea.⁶⁸ Naval forces complement the capabilities and resources of the Army and Air Force. While combat air

operations for land forces are habitually associated with the Air Force, the composition and complement of carrier air wings are available to support the JTF commander. Working together, an aviation task force and Navy elements complement the limitations of the other. Their joint effect becomes greater than the total effect of each operating independently.

When acting as an enabling force, an aviation task force called upon to conduct initial entry operations as a precursor to the arrival of airlift, sealift, and prepositioned assets would rely heavily on the use of Naval fire support systems. Carrier based strike aircraft can provide counter-air-support to the aviation task force. Long range sea-launched cruise missiles and naval surface fire support can provide accurate, all-weather fire support responsiveness to the task force during the mission. Naval expeditionary forces working with an aviation task force can provide the JTF commander with the means to extend his operational reach.

The bottom line is that the collective and coordinated employment of fires by an aviation task force along with land and sea-based lethal and non-lethal fires support joint operations at the operational level of war. An aviation task force conducting major operations from the littorals will not operate alone. Operations will require sophisticated acquisition and attack fire support systems against a diverse target array. The overarching operational concept is that the joint force commander synchronize the action of air, land, and sea based forces and systems to achieve strategic and operational objectives.⁶⁹ Naval fire support systems working with an aviation task force can achieve those objectives.

Force Protection:

FM 100-5, *Operations*, defines protection as conserving the fighting potential of a force so that commanders can apply it at the decisive time and place. Clausewitz said that in his day “the engagement is the edge of the sword, and time out of action is its reverse edge. The whole is so thoroughly welded together that it is not possible to distinguish where the steel starts and the iron ends.”⁷⁰

There are a number of potential regional threats to the United States. One that comes to mind is North Korea. The Korean peninsula is relatively small. The North Koreans can reach potential rear areas with artillery from the border. North Korea can bomb targets in South Korean rear areas after 3 1/2 minutes of flying time from their airfields. North Korean special operating forces (SPF) are already operating south of the DMZ. It is difficult to distinguish where the steel starts and the iron ends on the Korean peninsula.

Keeping with the Korean theme, the North Koreans currently have over 80,000 SPF soldiers in their Army. During the first phase of any North Korean offensive operation, SPF units would be inserted to disrupt our lines of communications and sabotage or destroy high payoff targets. An aviation task force is obviously on the North Korean high-payoff target list. An aviation task force is not protected from rear area threats on the Korean peninsula. If destroyed, a commander would lose a valuable weapon system -- one that could be applied at the decisive time and place to help decide the outcome of a war.

Naval vessels offer not only a force projection platform, but a force protection platform. Although a ship offers little dispersion, the fleet's air defense protection

facilitates air superiority and “control of the sea is usually a prerequisite for larger strategies involving a land-based objective.”⁷¹ By putting the aviation task force on naval vessels at sea, the commander can protect his operational striking force from rear area threats until it is committed. The fact that the rear area is constantly moving also helps the commander protect his forces from observation, detection, and destruction. Using ships as a force projection/protection platform not only limits an aviation task forces vulnerability, but helps it retain its freedom of action so that a commander can employ this versatile force at the decisive time and place on the battlefield.

Logistics:

The littorals often offer the best position from which to begin, sustain, and support joint operations, especially in operational areas with poor infrastructure for supporting operations ashore.⁷² *Naval Doctrine Publication 1, Naval Warfare*, underwrites the logistic corollary to the principles of war--responsiveness, simplicity, flexibility, economy, attainability, sustainability and survivability. Responsive logistical support is key to getting inside the enemy's decision cycle and generating the superior operational tempo needed to destroy a sustained threat.⁷³ An Amphibious Ready Group is responsive to the logistical needs of an aviation task force. The ships provide large areas to store equipment, workshops with proper tools to conduct intermediate level maintenance, and enough aviation fuel to support three aviation task forces.

While maintenance and fueling is made easier aboard ship, there are other challenges to be solved prior to further execution of the concept. Of special interest are Hazards of Electromagnetic Radiation to Ordnance (HERO). Although the AH-64 is shielded to the

Navy's 200 volts per meter electromagnetic vulnerability standard, some of the weapons do not meet the HERO standards. Although waivers are issued for provisional clearance for shipboard operations, resolution of this issue requires an additional coordination measure to achieve a routine operational capability. The Navy's ability to provide essential services with the right support in the right place at the right time fosters a bridge connecting a brown water force to a blue water mission.

The only drawback to sustainment aboard ship is the joint forces limited access to critical spare parts for unscheduled maintenance. Stockage of unique parts are limited aboard ship. However, the advanced communications suite aboard amphibious assault ships provide for timely coordination and requisitioning of critical components and end items from depots ashore. An Amphibious Ready Group has the capability to requisition and receive parts for high priority requisitions from shore based locations.

The greatest advantage to sustaining an aviation task force is the inherent connectivity to Combat Service Support (CSS) afloat. Forward deployed naval forces carry initial sustainment stocks to support operations and they are "supported by an in-place, efficient functioning logistic system constantly flowing material and logistic support that needs only to expand its flow to accommodate increases in operating tempo and the assimilation of additional forces."⁷⁴ The bottom line is that the pipeline is in place.

The success of future littoral operations depend on the preparation of sustainment packages to support the operation from ships at sea. Focused logistics provides the aviation task force with sustainment necessary to conduct operations in a littoral theater. Using naval vessels to extend operational reach of an aviation task force may or may not

decide the outcome of a major operation, but because our naval forces are self-sufficient, an aviation task force has access to everything it needs to conduct operations in the littorals.

Battle Command:

According to FM 100-5 *Operations*, there are four inherent characteristics of battle command: command, control, communications and space-based systems. The author will not address space-based systems because there are no distinguishing characteristics between operations conducted from land and those from a ship. Command provides purpose by means of an aim.⁷⁵ Control ensures that deviation from the established aim is minimized.⁷⁶ Communications ensures that the flow of information through the organizational structure continues to support the command and control elements.⁷⁷

No single communications or data processing technology, no single system of organization, no single procedure or method, is in itself sufficient to guarantee the successful or even adequate conduct of command in war.⁷⁸ As long as the commander in charge of the operation understands the intent two levels higher and the responsibilities of the units supporting the operation, he or she must act freely to accomplish the mission with minimal guidance. However, there is one distinguishing characteristic that increases the complexity of command when using naval vessels. That characteristic is the layering of command.

In a normal operation, the aviation task force commander reports to and works directly for the brigade commander. However, when conducting operations from a ship, an initiating directive from the joint commander authorizes the conduct of the operation.

This directive is also significant because it designates commanders for the operation.⁷⁹

There are normally two commanders charged with the execution of the operation from a ship. They are the commander of the amphibious task force (CATF) and the commander of the landing task force (CLF). The CATF commands all of the assets involved in the operation, while the CLF or in this case the aviation task force commander assumes command of his forces once control is passed ashore. In short, the CATF commander will launch the attack and once the aviation task force is clear of the ship's control zone (or directed by the CINC), operational control will pass to the JTF commander. This results in the aviation task force commander reporting to two commanders during the operation. The additional link in the chain of command, the process of transferring command and the time it takes to transfer command may well have adverse effects on the operation.⁸⁰ In any case, the command relationships must be addressed and resolved early on in order to minimize confusion.

Control supports command by removing detail from the commander and giving him the information he needs to decide and lead. Coordination is inherent in control. Skilled staffs work within the commander's intent to direct, coordinate, and control units and resource allocations to support the desired endstate.⁸¹ Coordination and control for all major operations are cumbersome and complex. From a coordination aspect, using ships for major operations presents many additional challenges to the staff, and the disadvantages sometimes outnumber the advantages.

Operating from a ship requires a commander to decentralize the chain of command somewhat and rely on others to effect coordination. When using a ship as a force

projection platform, carrying out any task requires the cooperation of personnel from the different Services. Shipboard operations requires the aviation task force to coordinate their mission with more agencies, resulting communications not only grow arithmetically, but geometrically, because of the additional coordination requirements.

Current doctrine considers the tenuous communications link between the JTF command post and the aviation task force as the single greatest challenge to successful deep operations.⁸² Communications aboard ship are central to both control and command. The ship offers a capability to talk directly to the aircraft conducting the mission as well as the brigade or JTF back in a rear assembly area. The degree of information superiority the ship offers allows all commanders from battalion to JTF level to exploit this capability and achieve not only a tactical advantage, but an operational advantage as well. This means knowledge and understanding of the situation becomes more certain, timely and more accurate which in turn leads to overall success of the mission.

CONCLUSION

Attack through voids, darkness, and over unknown routes from where the enemy does not expect you...and strike as swiftly as a falcon strikes its target. It surely breaks the back of its prey for the reason that it waits for the right moment to strike.

Sun Tzu, The Art Of War

In 1939 General George C. Marshall drew upon nearly four decades of military experience to rebuild the Army. The way General Marshall took on the daunting tasks he faced can be used as an inspirational guidepost for today's leaders. Like Marshall and his

staff officers on the eve of World War II, we are at a crossroads. We are facing a period of constrained resources and reduction in the defense budget like our military leaders before us. Debates attacking redundancy in capabilities continue to dominate discussions on Capital Hill. Reams of service specific doctrinal discussions reek of service parochialism and one-ups-manship at a time when we can ill afford it. But, Joint Vision 2010 is a guiding light for a coherent view of the future and outlines the implications for joint forces and joint operations. It articulates the holistic approach for prompt and sustained operations across the spectrum of conflict.

An aviation task force operating from the deck of an amphibious ship demonstrates the holistic approach. It has been successful in past operations and will continue to serve as an excellent means to project power across the spectrum of conflict for the foreseeable future. Our National Security Strategy, the National Military Strategy, and the realities of a new operational environment demands that we cross the bounds of doctrine and training and provide a force that is flexible and capable.

Joint Pub 3-0, *Doctrine For Joint Operations*, begins its discussion on Operational Reach with the following excerpt from the first page of *On War*, where Clausewitz likens war to a duel; "War is nothing but a duel on a large scale." The joint publication expands on Clausewitz's illustration of Operational Art by stating: "In Joint Operational Art, effective symmetrical attack (fully supported by all components of the joint force) and asymmetrical attack constitutes the dueler's sword; the actions of air, land, sea, space, and special operations forces to protect each other is the dueler's shield, basing and

sustainment is the dueler's footing, affecting the reach of the sword and the strength and resiliency of the shield."⁸³

Expanding on Clausewitz's analogy of the duelers sword, and using ships as a force projection platform, an aviation task force allows a commander to take full advantage of asymmetrical and symmetrical actions. Like the Doolittle raid in 1942, an aviation task force extends the commanders operational reach by striking in depth while preserving operational force protection and precision strike capabilities of the task force. The task force can embark aboard US Navy ships to project power and conduct early entry operations, deep operations, or operations in support of the Navy. Inherent in an aviation task force is the ability to quickly mass, conduct air assault operations, perform reconnaissance/security operations, and dominate key terrain by fire when required. An aviation task force using naval vessels as a force projection platform creates the transformation of these concepts into joint operational capabilities.

The modern force projection environment is complex. With increased emphasis on the integrated operation of joint forces and fires, an aviation task force can be a focal point for translating joint capabilities into the defeat of enemy forces. The basic advantage of an aviation task force maneuvering indirectly from the littorals is that it allows a commander to fight when and where he wants, rather than having to accept combat against enemy forces that are best prepared to fight. The littorals imply indirect approaches--attacks at unexpected times and places or in unexpected ways that promote surprise and success.

In order to surprise the enemy, a commander must have good intelligence. With an operational focus, the intelligence architecture aboard amphibious ships possess redundant

connectivity from the maneuver commander to the JTF commander. Naval intelligence centers aboard ship support operations at sea, from the sea, and ashore-through an organization closely linked with joint and national intelligence centers.⁸⁴ The degree of information superiority the ship offers allows all commanders the ability to exploit this capability and not only achieve an operational advantage, but a strategic advantage as well.

The actions of air, land and sea forces to protect each other is the dueler's shield. The operational environment of the littoral battlespace provides a commander with an operational maneuver force that can take the battle to the enemy. The centerpiece of the dueler's shield is the Navy's complement of amphibious assault ships, carrier air wings, and naval surface fire support systems providing all-weather fire support responsiveness to an aviation task force. Operational reach is extended and force protection is increased by the Navy's ability to maneuver ships into position to strike vulnerable targets, or threaten multiple amphibious assaults along a shoreline.

An important capability that a ship offers is force protection (Clausewitz's analogy of the dueler's shield). Naval vessels offer not only a force projection platform, but a force protection platform as well. The one advantage the Navy has over land-based forces is battlespace dominance. An aviation task force is not protected from rear area threats in the conventional context. In this scenario, the navy forces operate in rear area battlespace that is neither fixed in size or stationary. Using naval vessels as a force protection platform not only limits an aviation task force's vulnerability, but preserves the unit's freedom of action prior to employment.

Basing and sustainment is the dueler's footing, affecting the reach of the sword and the strength and resiliency of the shield.⁸⁵ Basing, whether from an intermediate staging base, a rear assembly area, or the deck of a ship directly affects operational reach. Basing an aviation task force on the deck of a ship is joint operational art. It contributes directly to the combat power that the joint force is capable of generating. Basing operations from the deck of a ship allows the aviation task force to shield its components from enemy action and deliver symmetric and asymmetric blows with increasing firepower and ferocity at a time and place of its choosing.

The littorals offer the best position to sustain and support an aviation task force, especially in operational areas with poor infrastructure for supporting operations ashore. Much of the Navy's operational logistics planning involves full integration and participation in joint operations. Forward deployed naval forces carry with them initial sustainment stocks to support joint operations and they are supported by an in-place, efficient, functioning logistics system constantly flowing material and logistics support that needs only to expand its flow to accommodate an aviation task force.⁸⁶ Collectively, sources of logistics support are capable of providing all the supplies and services an aviation task force needs in order to accomplish its mission. An amphibious assault ship is not only capable of receiving supplies and supporting an aviation task force, but has the capacity to store supplies and equipment, and provide intermediate level maintenance to army aviation assets.

Basing an aviation task force on the deck of a ship extends its operational reach and gives the joint task force commander another "sword" to deliver a symmetrical or

asymmetrical attack against the enemy. An aviation task force conducting operations from the deck of a ship is protected by the “shield” of the joint task force until it is ready to deliver its blows against the enemy.

In light of the growing interdependence of forces, the concept of operating an aviation task force from amphibious assault ships is a force multiplier with great potential for future contingency applications. This concept allows each service to fully exploit its capabilities in support of the joint force commander’s campaign objectives. The possibilities are endless - imagination and ingenuity are the solution.

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³⁸ Johnston, "U.S. Navy Owner's and Operator's Manual," 40.

³⁹ Johnston, "U.S. Navy Owner's and Operator's Manual," 38.

⁴⁰ Major Mike Knipple, interview by author, telephone conversation, Fort Leavenworth, KS, 17 JAN 1997. Information used is based on an unclassified telephone conversation with Major Knipple, former Army liaison officer for Atlantic Fleet. He stated there are numerous factors that go into planning the number of amphibious ships that would support a major regional contingency. However, for planning purposes, with an unclassified scenario as presented in this monograph, nine amphibious ships is a reasonable number.

⁴¹ Richard S. Obern, Captain, ed., Jane's Fighting Ships, ninety-ninth ed., (Alexandria, VA.: Jane's Information Group, 1996), 826.

⁴² Ibid., 825.

⁴³ Ibid., 824.

⁴⁴ The Joint Chiefs of Staff, JCS PUB 3-0, Doctrine For Joint Operations, IV-25.

⁴⁵ The Joint Chiefs of Staff, JCS PUB 4-0, Doctrine for Logistic Support of Joint Operations, (Washington, D.C.: Joint Chiefs of Staff, 27 January 1995), II-2.

⁴⁶ Carl von Clausewitz, On War, (Princeton: Princeton University Press, 1976), 383.

⁴⁷ U.S. Army, FM 100-5, Operations, 12-3.

⁴⁸ The Joint Chiefs of Staff, JCS PUB 4-0, Doctrine for Logistic Support of Joint Operations, IV-6.

⁴⁹ Ibid., 27.

⁵⁰ Ibid., 12.

⁵¹ Ibid., 64.

⁵² Ibid.

⁵³ U.S. Navy, Naval Doctrine Publication 2: Naval Intelligence, (Washington, D.C.: Department of the Navy, 30 September 1994), 10.

⁵⁴ U.S. Navy, Naval Doctrine Publication 2, Naval Intelligence, 4.

⁵⁵ von Clausewitz, On War, 541.

⁵⁶ U.S. Navy, Naval Doctrine Publication 2, Naval Intelligence, 38.

⁵⁷ U.S. Army, FM 100-5, Operations, 2-13.

⁵⁸ von Clausewitz, On War, 109.

⁵⁹ Ibid.

⁶⁰ U.S. Army, Tactics, Techniques, and Procedures for the Digitized Aviation Task Force, (FT. Rucker, AL.: Army Aviation Warfighting Center, May 1996), C-4.

⁶¹ Schneider, "The Theory of Operational Art," Theoretical Paper No. 3, 41.

⁶² Henri Jomini, The Art of War, (Westport, CT: Greenwood Press, 1971), 114.

⁶³ U.S. Army, FM 100-7, Decisive Force: The Army in Theater Operations, 5-3.

⁶⁴ U.S. Army, FM 100-5, Operations, 2-13.

⁶⁵ Ibid.

⁶⁶ Ibid., 5-5.

⁶⁷ Ibid., 5-9.

⁶⁸ U.S. Army, FM 6-20-10, Tactics, Techniques, and Procedures for The Targeting Process, (Washington, D.C.: Department of the Army, May 1996), F-1.

⁶⁹ U.S. Army, FM 6-20-10, Tactics, Techniques, and Procedures for The Targeting Process, 1-1.

⁷⁰ von Clausewitz, On War, 75.

⁷¹ U.S. Navy, Naval Doctrine Publication 1, Naval Warfare, 27.

⁷² The Joint Chiefs of Staff, JCS PUB 3-0, Doctrine For Joint Operations, IV-25.

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- ⁷³ U.S. Army, FM 100-5, Operations, 12-4.
- ⁷⁴ U.S. Navy, Naval Doctrine Publication 4: Naval Logistics, (Washington, D.C.: Department of the Navy, 10 January 1995), 27.
- ⁷⁵ Schneider, "The Theory of Operational Art," Theoretical Paper No. 3, 6.
- ⁷⁶ Ibid .
- ⁷⁷ Ibid., 7.
- ⁷⁸ Martin van Creveld, Command in War, (Cambridge, Massachusetts : Harvard University Press, 1985), 261.
- ⁷⁹ The Joint Chiefs of Staff, JCS PUB 3-02, Joint Doctrine for Amphibious Operations (Washington, D.C. , Joint Chiefs of Staff, 1 November 1986) , 2-3.
- ⁸⁰ von Clausewitz, On War, 295.
- ⁸¹ U.S. Army, FM 100-5, Operations, 2-15.
- ⁸² U.S. Army , Corps Deep Operations: Tactics, Techniques and Procedures Handbook , 4-14.
- ⁸³ The Joint Chiefs of Staff, JCS PUB 3-0: Doctrine For Joint Operations, III-21.
- ⁸⁴ U.S. Navy, Naval Doctrine Publication 2, Naval Intelligence, 10.
- ⁸⁵ The Joint Chiefs of Staff, JCS PUB 3-0: Doctrine For Joint Operations, III-21.
- ⁸⁶ U.S. Navy, Naval Doctrine Publication 2, Naval Intelligence, 4.

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